

REMARKS

Amended Claims 1,2,4,6,8,11-17, 31-35, and 39-46 are submitted for consideration. Claims 2, 6, 32, and 34 have been amended in accordance with MPEP 2173.05(c). Claims 18-22 are withdrawn.

The Action rejected claims 1-18 under 35 U.S.C. 112, first paragraph, because the specification does not provide enablement for use of the method in all sexually reproducing plants. Accordingly, Applicants have limited the claims to maize, melon, and tomato. In support of the claims for melon and tomato, Applicants submit a new declaration with methods for transforming melon and tomato. The methods and data included show that this method can be used for melon and tomato, although the methods have not been optimized. However, one skilled in the art can easily optimize the methods without undue experimentation. (See Declaration of Abraham Korol, par. 9).

Applicants have made a diligent effort to amend the Claims and respond to various rejections made in the Office Action. If for any reason, however, the Examiner should deem this application not in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney to resolve any outstanding issues prior to issuing a further Office Action.

Respectfully Submitted,



Rashida A. Karmali, Esq.
Reg. No. 43,705
Attorney for Applicants
99 Wall Street, 10th Floor
New York, NY 10005
212-651-9654



Version with markings to show changes made.

1. (Twice Amended) A method for genetic transformation of a flowering plant [reproducing sexually], said method [comprising of a pollination-fecundation process and] comprising the steps of:
 - (a) preparing a silicon carbide fiber solution;
 - (b) preparing a pollen germination medium;
 - (c) preparing a DNA solution;
 - (d) mixing said silicon carbide fiber[s] solution with said pollen germination medium and said DNA solution to form a mixture;
 - (e) adding fresh pollen into said mixture to form a paste;
 - (f) vortexing said paste for 30 to 60 seconds;
 - (g) applying said vortexed paste [formed in step (e)] on [silks] female reproductive plant parts for pollination; and
 - (h) selecting for transformants.
2. (Twice Amended) The method of Claim 1, wherein [said silicon fibers] the silicon carbide fibers of said silicon carbide fiber solution used in step (a) are approximately 0.1-20 μm in diameter and 1-250 μm in length [and more preferably between 1-2 μm in diameter and 10-80 μm in length].
4. (Twice Amended) The method of Claim 1, wherein the [solution of silicon carbide fibers] silicon carbide fiber solution prepared in step (a) comprises a sufficient amount of sterile water or solvent to make a 5% to 25% aqueous solution.
6. (Twice Amended) The method of Claim 1, wherein the pollen germination medium contains about 5% - 15% sucrose, 0.01% - 1.0% H_3BO_3 , 0.01% to 1.0% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6 [and more preferably, about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2 \cdot 4\text{H}_2\text{O}$ at pH 5.6].

8. (Twice Amended) The method of Claim 1, wherein said DNA solution is a solution of plasmid DNA.

11. (Twice Amended) The method of Claim 1, wherein the selection of [a] transformants is performed by [using specific cloned selectable markers] looking for the phenotypic expression of a specific cloned selectable marker gene with a phenotypic expression, said cloned selectable marker gene selected from the group consisting of antibiotic[s] resistance gene[s] and herbicide[s] resistance gene[s].

12. (Twice Amended) The method of Claim 11, wherein said selectable marker gene [having] with a phenotypic expression is a gene regulating anthocyanin levels.

13. (Twice Amended) The method of Claim 11, wherein said selectable marker gene [marker] is a gene providing resistance to at least one antibiotic.

14. (Twice Amended) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to neomycin phosphotransferase.

15. (Twice Amended) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to kanamycin [kamamycin].

16. (Twice Amended) The method of Claim 11, wherein said selectable marker gene is a gene providing resistance to phosphinothricin [phosphinothriun] acetyltransferase.

17. (Twice Amended) The method of Claim 1, wherein the flowering plant[s] is [are] [selected from the group consisting of maize, melon and tomato] maize.

31. (Amended) A method for genetic transformation of maize reproducing sexually, [said method comprising of a pollination-fecundation process and] said method comprising the steps of:

- (a) preparing a silicon carbide fiber solution;
- (b) preparing a pollen germination medium;
- (c) preparing a DNA solution;

- (d) mixing said silicon carbide [carbon] fiber solution with said pollen germination medium and said DNA solution to form a mixture;
- (e) adding fresh pollen into said mixture to form a paste;
- (f) vortexing said paste for 30 to 60 seconds;
- (g) applying said vortexed paste on silks for pollination; and
- (h) selecting for transformants.

32. (Amended) The method of Claim 31, wherein the silicon carbide fibers of said silicon carbide fiber solution used in step (a) are approximately 0.1-20 μm in diameter and [(1-250 μm in length[, and more preferably between 1-2 μm in diameter)and 10-80 μm in length].

33. (Amended) The method of Claim 31, wherein the silicon carbide fiber solution [solution of silicon carbide fibers] prepared in step (a) comprises a sufficient amount of sterile water or solvent to make a 5% to 25% aqueous solution.

34. (Amended) The method of Claim 31, wherein the pollen germination medium contains about 5% - 15% sucrose, 0.01% - 1.0% H_3BO_3 , 0.01% to 1.0% $\text{Ca}(\text{NO}_3)_2\text{4H}_2\text{O}$ at pH 5.6 [and more preferably, about 15% sucrose, 0.018% H_3BO_3 , 0.04% $\text{Ca}(\text{NO}_3)_2\text{4H}_2\text{O}$ at pH 5.6].

35. (Amended) The method of Claim 31, wherein said DNA solution is a solution of plasmid DNA.

37. (Amended) The method of Claim 31, wherein the selection of transformants [a transformant] is performed by [using] looking for the phenotypic expression of a specific cloned selectable marker[s] gene, said cloned selectable marker gene selected from the group consisting of [antibiotics and herbicides] antibiotic resistance gene and herbicide resistance gene.

37. (Amended) The method of Claim 37, wherein said selectable marker gene is a gene providing resistance to kanamycin [kamamycin].

40. (Amended) The method of Claim 37, wherein said selectable marker gene is a gene providing resistance to phosphinotricin [phosphinothiun] acetyltransferase.